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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/666,382	09/20/2000	Xiao-Dong Sun	RD-27,624	6126

7590 11/06/2002
General Electric Company
CRD Patent Docket Rm 4A59
PO Box 8
Bldg K 1 Salamone
Schenectady, NY 12301

EXAMINER

SODERQUIST, ARLEN

ART UNIT	PAPER NUMBER
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1743

DATE MAILED: 11/06/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/666,382

Applicant(s)

Sun

Examiner

Arlen Soderquist

Art Unit

1743



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 2 6) ☐ Other:

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

2. Claims 1-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Xiang (US 6,048,469) in view of Schultz (US 5,985,356) and Salomaa. In the patent Xiang teaches advanced phosphors discovered through combinatorially synthesizing candidates and then testing them for luminescence. Figure 2 shows a system for the synthesis of the candidate materials which is substantially similar to the instantly claimed device. The system has up to 8 inkjet heads connected with various chemical reservoirs used in making the various candidate compositions. Column 5, line 60 to column 6 line 12 describes the system including the substrate having wells and the motorized x-y stage that the support is attached to for the deposition part of the synthesis. The patent differs from the instant claims in that the inkjet is not a positive displacement dispenser.

In the patent Schultz teaches the combinatorial synthesis of novel materials. Table 1 teaches that emission is one of the possible properties that can be examined for the materials that are synthesized. Column 20, line 18 to column 24, line 53 discuss the formation of these materials through delivery of them to a substrate by a dispenser. Column 20 lines 19-29 teach that dispensers can be utilized to generate diverse combinations of reactant components in the form of droplets or powder on a single substrate. Commercially available micropipetting apparatus can

be adapted to dispense droplet volumes of 5 nanoliters or smaller from a capillary. Such droplets can fit within a reaction region having a diameter of 300 μm or less when a non-wetting mask is employed. In some embodiments, the micropipette is accurately and precisely positioned above the reaction, as described below, before the reactant solution is deposited. Also taught is the use of multiple dispensers.

In the patent Salomaa teaches a liquid handling system for performing automatic transfer of liquid samples between a plurality of receptacles. More specifically, it is directed to a system for filling, or transferring liquid samples between, a multiplicity of separate liquid receptacles, such as is required in initial filling and serial dilution of liquid samples in microtiter trays where each receptacle holds only about one tenth to ten milliliters of liquid. Such a serial dilution system basically involves mixing the sample with successively increasing proportions of a diluent in separate receptacles thereby to obtain a series of successively decreasing concentrations of the sample. The various sample concentrations can then be assayed to determine a particular property. The figures show the microtiter plate on a table (10) that is movable to place the microtiter plate under the positive displacement dispensers (36) which as shown in figure 3 have a plunger rod (40) for each dispenser.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the dispenser(s) Salomaa into the Xiang device because of their known use in creating gradients of compositions as taught by Salomaa and because of the recognition by Schultz that commercially available dispensers are capable of dispensing components for creating materials that are subsequently evaluated for properties such as luminescence (emission).

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The additional references are directed to either the discovery/optimization of phosphore materials or liquid dispensers usable to transfer fluids into multiwell substrates and plates.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arlen Soderquist whose telephone number is (703) 308-3989. The examiner's schedule is variable between the hours of about 5:30 AM to about 5:00 PM on Monday through Thursday and alternate Fridays.


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For communication by fax to the organization where this application or proceeding is assigned, (703) 305-7719 may be used for official, unofficial or draft papers. When using this number a call to alert the examiner would be appreciated. Numbers for faxing official papers are 703-872-9310 (before finals), 703-872-9311 (after-final), 703-305-7718, 703-305-5408 and 703-305-5433. The above fax numbers will generally allow the papers to be forwarded to the examiner in a timely manner.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

A handwritten signature in black ink, reading "Arlen Soderquist". The signature is fluid and cursive, with a long horizontal stroke at the end.

November 4, 2002

ARLEN SODERQUIST
PRIMARY EXAMINER